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Archimedes

PC EMULATOR

INSTALLATION LEAFLET

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1 INTRODUCTION

THE PC EMULATOR INSTALLATION LEAFLET

This leaflet explains how to use the PC Emulator and lists a few of the more commonly used MS-DOS commands. It is not a complete MS-DOS user guide. These can be purchased from any good book shop. Some suggested titles appear in *Appendix A - Bibliography.*

The PC Emulator is designed to turn a 1Mbyte (or greater) Archimedes computer into a system similar to that of an IBM PC or clone. It consists of two major parts:

- a PC environment emulator
- an MS-DOS Operating System

The distinction between the two is hidden. The minimum amount of memory necessary to use the emulator is 1Mbyte. This gives you sufficient RAM for MS-DOS, applications and data. On a larger system the amount of memory available increases to the maximum of 640K. The version of MS-DOS supplied is version 3.

CONVENTIONS USED IN THIS GUIDE

The following conventions are applied throughout this guide:

- Specific keys to press are denoted as Delete, Ctrl, etc.
- Text you type on the keyboard and text that is displayed on the screen appears as follows:

```
PRINT "Hello"
```

- After entering any text, press ↵ to tell the computer that you have completed the line and that you want the computer to act upon it.

2 INSTALLATION

To use the PC Emulator, you require at least a 1Mbyte Archimedes computer. This can be a 310 or an upgraded 305 or a 400-series system.

To maximise the PC RAM available, your Archimedes can be re-configured by typing the following from the command line:

```
*configure screensize 10
*configure fontsize 0
*configure spritesize 0
*configure RMAsize 0
```

Press Ctrl RESET and your machine will start up again with the new configuration.

The system will, however, still run in the default configuration. (For details about system configuration, see the *Archimedes User Guide*.)

The PC Emulator comprises the following two discs:

- the PC Emulator disc
- the MS-DOS boot disc.

Instructions

1. Insert the Emulator disc into drive 0 (the right hand drive if your system has been upgraded to a two-floppy system, otherwise your only floppy drive) and press Shift Break. The disc spins and a counter indicates the available memory. After a while the following message appears:

   ```
   Acorn PC Emulator, (c) Acorn 1987

   Insert MSDOS boot disk and press any key
   ```

2. Replace the Emulator disc with the MS-DOS boot disc and press the space bar. MS-DOS boots itself in and prompts you for the date and time. These are taken from the system's real-time clock and should be correct if your system is set up properly. Pressing ↵ at the date and time prompts ensures that the system uses the real-time clock values.

   The MS-DOS copyright message then appears, which is followed by the system prompt:

   ```
   A>
   ```

The PC Emulator and MS-DOS are now installed and the system is ready to be used.

3 MS-DOS COMMAND SUMMARY

Below is a list of the most commonly used MS-DOS commands with a brief description.

Note that in the MS-DOS environment your Archimedes floppy disc drive, or the right hand one if your machine has been upgraded to two-floppy drives (drive 0 in ADFS) will become drive A. A second floppy drive will be drive B. A hard disc (if one is fitted) will be referred to as drive C, as will a RAM disc (see the next chapter).

CHDIR

CHDIR (or CD) is used to change the current directory. For example:

```
A>CHDIR A:\LETTERS
```

changes the current directory of drive A to the directory LETTERS on drive A. The following example:

```
A>CD B:\BILLS\GAS
```

changes the current directory of drive B to the directory GAS in the directory BILLS on drive B.

CHKDSK

CHKDSK is used to check that a disc is correctly set up. It displays the total amount of space on the disc, the amount of space remaining and the number of files stored. In addition to this, CHKDSK displays the amount of memory that the emulator makes available as PC memory and the amount of that which is free for applications.

CLS

CLS is used to clear the screen.

COPY

COPY is used to copy files or directories between drives on the system. For example:

```
A>COPY B:TEST.COM
```

copies TEST.COM from drive B to drive A, while:

```
A>COPY B:\LETTERS B:\BILLS
```

copies the contents of the directory LETTERS on drive B to the directory BILLS on drive B.

DATE

DATE returns the system date and prompts for a new date to be entered. Note that the date is in American format, ie MM/DD/YY. If you do not wish to change the date, just press↵.

DIR

DIR is used to catalogue the current directory. DIR on its own lists the files one per line. The following example:

```
A>DIR B: /W
```

lists the files on drive B, five per line.

ERASE

ERASE allows you to delete files or directories from a disc (a shortened form is DEL). For example:

```
A>ERASE *.COM
```

erases all files with the .COM extension, while:

```
A>ERASE B:\TEST
```

erases all files in the TEST directory on drive B.

FORMAT

FORMAT is used to prepare new blank discs to store data and programs on. For example:

```
A>FORMAT B:
```

formats the disc in drive B. You will be prompted to insert the new disc before formatting starts.

MKDIR

MKDIR (or MD) is used to create new directories on the disc. For example:

```
A>MKDIR BILLS
```

creates a directory called BILLS from the current directory, while:

```
A>MD B:\TEST
```

creates a directory called TEST from the root on drive B.

RMDIR

RMDIR deletes a directory from the disc. The directory must be empty before it can be deleted. For example:

```
A>RMDIR LETTERS
```

deletes the directory called LETTERS on the current drive (A).

TIME

TIME returns the system time and prompts for a new time to be entered. If you do not wish to change the time, just press ↵.

TYPE

TYPE allows you to display the contents of a text file on the screen. For example:

```
A>TYPE B:MYFILE.DOC
```

displays the contents of MYFILE.DOC on drive B.

4 UTILITIES

There are two utilities present on the MS-DOS boot disc which make possible the transfer of files from MS-DOS to ADFS format discs and vice versa - GETFILE and PUTFILE:

GETFILE

The utility GETFILE allows the transfer of files from ADFS to MS-DOS and has the following syntax:

```
GETFILE <ADFS source filename> <MS-DOS destination filename>
```

For example (on a dual-floppy system, where the second drive is drive 1):

```
GETFILE :1.LETTERS.BANK A:\LETTERS\BANK.DOC
```

PUTFILE

The utility PUTFILE allows the transfer of files from MS-DOS to ADFS and has the following syntax:

```
PUTFILE <MS-DOS source filename> <ADFS destination filename>
```

For example:

```
PUTFILE A:\SHEETS\ACCOUNTS.SHT :1.SHEETS.ACCOUNTS
```

USING GETFILE AND PUTFILE ON SINGLE DRIVE SYSTEMS

With both these utilities, no support is given for single drive systems. To make use of GETFILE and PUTFILE, a second drive must be used. This can be either a second floppy drive, a hard disc partition or a RAM (Random Access Memory) "disc". On a single drive system, the RAM disc is the only way of utilising GETFILE and PUTFILE.

To create a RAM disc, remove the protection from your MS-DOS boot disc, then:

1. Start up the PC Emulator as described earlier in this booklet

2. From the A> prompt type:

   ```
   A>edlin config.sys
   ```

   This loads the line editor to enable you to change the Emulator's boot configuration

3. Type:

```
I
DEVICE=RAMDRIVE.SYS
Ctrl C   (Note: do not type ↵ after this line)
E
```

4. Re-boot the PC Emulator by holding down the Ctrl and Alt keys and pressing and releasing the Delete key.

5. The screen will clear and you will get a message saying that a memory disc has been created on drive C. You will not need to create a RAM disc if your system has a hard disc (normally drive C), but if you do, the RAM disc will become drive D.

Your RAM disc has now been created, and can be used to copy files between ADFS and MS-DOS:

- First copy the GETFILE or PUTFILE programs into the RAM disc by typing:

```
A>C:
C>COPY A:PUTFILE.CMD C:
C>COPY A:GETFILE.CMD C:
```

- To get files from ADFS, you put the ADFS disc into the drive and use the command syntax for GETFILE shown above.

  For example:

```
C>GETFILE :0.MYFILE MYFILE.DOC
```

- To put files onto an ADFS disc, copy the files from your MS-DOS disc onto the RAM disc, then use PUTFILE to transfer them to the ADFS disc.

The RAM disc takes up 64k of your Archimedes RAM, which may be required to run other applications. You may therefore want to remove it from your system disc after using GETFILE and PUTFILE. To do this, with the unprotected MS-DOS boot disc in the drive, type:

```
A>EDLIN CONFIG.SYS
D
E
```

You can now reboot the system, and it will not create the RAM disc.

5 USING THE PC EMULATOR WITH A HARD DISC

If your Archimedes is equipped with a hard disc it is possible to use this with the PC Emulator. A partition is created on the hard disc which is then exclusively used for MS-DOS files. The partition size is 10Mbytes so there must be at least this amount free on your hard disc.

INSTALLING THE PC EMULATOR

1. Put your PC Emulator disc into the floppy drive and type:

```
*harddisk
```

This is a small BASIC program which creates a new directory on your hard disc called PC. The partition is created in this directory and the emulator software is copied here from the floppy. The program then starts up the emulator from the hard disc. When you are prompted for the MS-DOS boot disc, insert the disc, and MS-DOS will be loaded.

The partition now exists, but it has to be formatted. This is done using two MS-DOS programs, `FDISK` and `HDINSTAL`, in the following way:

2. Type:

```
FDISK
```

and enter the number 1 to `Create a DOS Partition`. When asked whether you wish to use all the fixed disc, answer `YES`. Once the partition has been created you have to re-boot the MS-DOS system. The boot disc should still be in the drive so press any key. To format the disc and copy the MS-DOS system files, type:

```
HDINSTAL
```

You now have a complete MS-DOS system installed on your hard disc. From now on, you do not need the floppy discs.

RUNNING THE EMULATOR

Type:

```
*DIR :4
*PC.Emulate
```

At the `Insert MS-DOS Boot Disk` prompt, do not put a floppy disc in the drive, just press the space bar. MS-DOS will be booted from the hard disc. You can use drive C (the hard disc) in the same way as drives A or B.

APPENDIX A - BIBLIOGRAPHY

For further information concerning MS-DOS, you may find the following books of interest:

ABC's of MS-DOS by A R Miller, published by Sybex.

IBM PC: An introduction to the operating system, BASIC programming and application by L J Goldstein, published by Prentice-Hall.

IBM PC-DOS handbook by R A King, published by Sybex.

The power of running PC/DOS: Includes versions 3.2 by C Siechert and C Wood, published by Management Information Source.

Understanding MS-DOS by K O'Day, published by Sams.